

**Notes on *Neocapritermes* Holmgren, with description of two new species from the Amazon Basin (Isoptera, Termitidae, Termitinae).**

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**ABSTRACT** - *Neocapritermes pumilis*, sp.n., and *N. unicornis*, 'p.n.', are described, and drawings of soldier's head and worker's mandibles are presented. New data on the geographical distribution of *N. angusticeps*, *N. araguaia*, *N. bodkini*, *N. braziliensis*, *N. guyana*, *N. opacus*, *N. talpa*, *N. taracua*, *N. utiariti* and *N. villosus* is presented with biological notes.

**KEY WORDS:** *Neocapritermes*, termites, Isoptera, Termitidae, taxonomy.

**RESUMO** - *Neocapritermes pumilis*, sp.n., e *N. unicornis*, sp.n., são descritos e desenhos da cabeça dos soldados e das mandíbulas do operário são apresentados. Novos dados sobre a distribuição geográfica de *N. angusticeps*, *N. araguaia*, *N. bodkini*, *N. braziliensis*, *N. guyana*, *N. opacus*, *N. talpa*, *N. taracua*, *N. utiariti* e *N. villosus* são apresentados com notas biológicas.

**PALAVRAS CHAVE:** *Neocapritermes*, cupins, Isoptera, Termitidae, taxonomia.

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## INTRODUCTION

The Neotropical genus *Neocapritermes* was reviewed by Krishna & Araujo (1968), who recognized 14 species, the majority of them known from the Amazon Region. Due to the paucity of collections in this region, there is scarce information on geographical distribution of the species, many of them known only from the type-locality or from a few localities.

The biology of *Neocapritermes* is poorly known. There is no description of nests in the literature and the subterranean habit seems to be dominant in the genus. They are generally found in or under fallen logs, under stones or in epigeal, earthen nests built by other species. *N. braziliensis* seems to be an exception and builds independent epigeal or arboreal nests.

Based on new material recently collected in the Amazon Region, here I present new data on geographical distribution of *Neocapritermes* species and the description of two new species. All the material examined is deposited in the collection of the Museu Paraense Emílio Goeldi (MPEG). Each number listed corresponds to the catalog number of one lot, equivalent to one sample, deposited in the MPEG collection. The complete references on the species descriptions are in Krishna & Araujo (1968). The geographical coordinates of the localities mentioned in this paper are listed in Table 1.

*Neocapritermes pumilis*, sp.n.

Figs. 1 & 2

HOLOTYPE SOLDIER, two soldier paratypes and 18 worker paratypes - BRAZIL. Pará State. Belém, MPEG 3360, 30.VIII.1989, R. Constantino col..

PARATYPES - BRAZIL. Amazonas State. Humaitá, MPEG 3737, 15.IX.1990, R. Constantino col., two soldiers and one worker.

ALATES - Unknown.

SOLDIER - Head elongated with sides straight and parallel; slight constriction behind antennae. Labrum short, anterior margin almost straight.

Mandibles strongly curved and twisted. Apex of left mandible blunt. Apex of right mandible slender in profile. Antennae with 15 segments, first the longest one, second longer than third, fourth and fifth shortest. Anterior margin of pronotum strongly emarginate (not visible in the drawing because it was made in dorsal view); posterior margin rounded. Metanotum with a slight incision on posterior margin. Head capsule with numerous short bristles on top and sides. Labrum with one bristle in the middle of anterior margin. Postmentum with few bristles on anterior portion. Pronotum with bristles on margins and a few ones on surface. Meso and metanotum with bristles on posterior margin. Legs with scattered hairs and bristles. Middle tibia with two or three spines on outer margin. Tibial spurs 3:2:2. Tergites and sternites with numerous hairs on surface. Sternites with a row of long bristles on posterior margin. Head orange, pronotum and legs yellow, abdomen pale yellow.

**WORKER** - Head rounded; postclypeus moderately inflated; abdomen elongated. Head yellow white; legs and abdomen whitish. Head with six bristles on top; postclypeus without hairs or bristles; labrum with six medium-sized bristles. Pronotum with numerous short to long bristles. Tergites with scattered medium-sized bristles, more numerous on posterior margin; sternites with scattered short hairs on surface and a row of long bristles on posterior margin. Legs with scattered hairs and bristles; middle tibia with two spines on outer margin. Mandibles as in Fig. 2.

**COMPARISONS** - Three other *Neocapritermes* species have similar strongly curved mandibles: *N. guyana*, *N. talpa* and *N. talpoides*. *N. guyana* is the closest species and differs by the following: a much deeper incision on posterior margin of metanotum; labrum with a pimple-like projection in the middle of anterior margin; apex of right mandible much thicker in profile; left mandible less curved. *N. talpa* is much larger and has antennae with 16 segments. *N. talpoides* is larger, its mandibles are less curved, and has less numerous bristles on head.

**BIOLOGY** - The type-material was collected in primary terra firme forests, under fallen logs.

*Neocapritermes unicornis*, sp.n.

Figs. 3 &amp; 4

HOLOTYPE SOLDIER, three soldier paratypes and 15 worker paratypes - BRAZIL. Amapá State. Serra do Navio, MPEG 3282, 02.XI.1989, R. Constantino col..

PARATYPES - BRAZIL. Amapá State. Serra do Navio, MPEG 3270, 02.XI.1989, R. Constantino col., one soldier and eight workers. Amazonas State. Humaitá, MPEG 3719, 15.IX.1990, one soldier and two workers.

ALATES - Unknown.

SOLDIER - Head capsule elongate with parallel, slightly convex sides. Top of head convex in profile. Left side of distorted postclypeus with a conspicuous, spinelike projection oriented forwards. Fontanelle small, circular. Antennae with 16 segments, first the largest one, second larger than fifth, fourth and third shortest. Anterior margin of pronotum rounded, with a slight median incision; posterior margin without median incision. Posterior margin of metanotum emarginate. Left mandible moderately curved, with clavate apex. Right mandible with outer margin almost straight; under margin almost straight in profile. Labrum constricted in proximal portion; anterior margin almost straight. Head with few bristles, more numerous on sides. Labrum with two bristles on the middle of anterior margin. Postmentum with two bristles on anterior margin. Pronotum with bristles on margins. Meso and metanotum with bristles on posterior margin. Legs with scattered hairs and bristles. Middle tibia with one spine near the middle of outer margin. Tibial spurs 3:2:2. Tergites with short bristles oriented backwards, more numerous near posterior margin, and a row of few long, erect bristles on posterior margin. Sternites with numerous short bristles oriented backwards and a row of long ones on posterior margin. Head orange yellow. Postclypeus chestnut brown. Pronotum and legs yellow. Abdomen pale yellow.

Measurements (in millimeters) of five soldiers from the three colonies: lateral length of head: 2.05-2.11; maximum width of head 1.08-1.11; maximum height of head excluding postmentum 0.86-0.89; length of left mandible 1.80; maximum width of pronotum 0.69-0.72; length of hind tibia 0.78-0.80.





**WORKER** - Head rounded; postclypeus moderately inflated; abdomen elongated. Head yellow white; legs and abdomen whitish. Head with six bristles on top; postclypeus without hairs or bristles; labrum with four hairs at tip. Pronotum with numerous short to long bristles. Tergites with scattered hairs and short bristles; sternites with numerous hairs on surface and a row of long bristles on posterior margin. Legs with scattered hairs and bristles; middle tibia with one spine on outer margin, distally placed. Mandibles as in Fig. 4.

**COMPARISONS** - Only three other known *Neocapritermes* species have a spinelike projection on postclypeus: *N. araguaia*, *N. angusticeps* and *N. parvus*. *N. unicornis* is very close to *N. araguaia*, which is larger, has the head proportionally longer, the mandibles more curved in profile, the labrum distinctly three-lobed and wider, the postclypeal projection smaller and more upwards oriented. *N. angusticeps* is larger and has proportionally longer head, with a smaller postclypeal projection. *N. parvus* is larger and has the head proportionally much longer, with a smaller postclypeal projection.

**BIOLOGY** - This species was collected in primary terra firme forests in rather sound wood on the ground.

**REMARKS** - *N. unicornis* is distinguished from *N. araguaia* also in terms of ecological habits. *N. araguaia* is commonly found in nests of *Cornitermes* spp. and probably feeds on organic residues in the host termitaria. The worker's mandibles in *N. unicornis* have smaller apical teeth and more developed molar ridges than those of *N. araguaia*.

*Neocapritermes angusticeps* (Emerson) 1925

**MATERIAL EXAMINED** - BRAZIL. Amapá State. Macapá, MPEG 3158, 3202 and 3247, 17-29.X.1989, R. Constantino col.. Mazagão, MPEG 3190, 20.X.1989, R. Constantino col.. Serra do Navio, MPEG 3277, 2.XI.19989, R. Constantino col.. Pará State. Anajás, Marajó Island, MPEG 2362, 10.XII.1982, W.L. Overal col.. Benevides, MPEG 983, 16.IX.1980, R.B. Neto col.; MPEG 990, 17.IX.1980, A.G. Bandeira col.; MPEG 1011, 27.I.1981, A.G. Bandeira col.; MPEG 1157, 26.VIII.1982, A.G. Bandeira col.. Bujarú,

MPEG 514 and 517, 02-03.II.1979, A.G. Bandeira col.. Soure, Marajó Island, MPEG 575, 24.II.1979, P.T. Eremita col..

**BIOLOGY** - *N. angusticeps* occurs in primary terra firme forests but was collected also in second growth forests and in pastures. It is found in or under fallen logs and in abandoned epigeal, earthen nests built by other species, and apparently feeds on rotten wood on the ground.

**DISTRIBUTION** - This species occurs in northeastern Amazonia including the Guianas, Trinidad, Amapá State, northeastern Pará State and northeastern Amazonas State. It probably occurs also in northwestern Pará State, but no termite collection is available from this region.

*Neocapritermes araguaia* Krishna & Araujo 1968

**MATERIAL EXAMINED** - BRAZIL. Amazonas State. Manaus, MPEG 048, 24.VIII.1976, A.G. Bandeira col.. Silves, MPEG 248, 03.XI.1977, A.G. Bandeira col.. Pará State. Soure, Marajó Island, MPEG 726 and 3471, 22-24.II.1979, P.T. Eremita col.. Tucuruí, MPEG 2007 and 2064, 2-2-2-11.IV.1984, A.G. Bandeira col.; MPEG 2139, 11.IV.1984, M.F. Torres col..

**BIOLOGY** - *N. araguaia* was previously known only from cerrado vegetation as inquiline of *Cornitermes* spp. but the colonies listed above are from primary terra firme forests and one (MPEG 248) is from second growth forest. It was collected from *Cornitermes* nests and also from rotten logs on the ground.

**DISTRIBUTION** - This species was previously known only from a few localities in Central Brazil and is recorded here for the first time for the Amazon Region.



*Neocapritermes bodkini* (Silvestri) 1923

MATERIAL EXAMINED - BRAZIL. Pará State. Belém, MPEG 3410, 26.VI.1989, R. Constantino col..

BIOLOGY - No biological information is available in the literature about this species. The colony above was collected in a primary terra firme forest, under the bark of a living tree.

DISTRIBUTION - *N. bodkini* was previously known only from Guyana.

*Neocapritermes braziliensis* (Snyder) 1926

MATERIAL EXAMINED - BRAZIL. Amazonas State. Maraã, MPEG 2849, 2852, 2877, 2886, 2896, 2942, 2944, 2988, 12-31.X.1988, R. Constantino col.. Pará State. Anajás, Marajó Island, MPEG 2356 and 2360, 7.XII.1982, W.L. Overal col.. Breves, Marajó Island, MPEG 3073, 3074, 3077, 3078, 3087 and 3088, 5-10.VIII.1988, M.B. Martins et al. col.. Oriximiná, MPEG 1364, 06.VIII.1982, A.Y. Harada col.. Parque Nacional da Amazonia, MPEG 384, 390 and 3473, 18-22.VIII.1978, A.G. Bandeira col.. Roraima State. Maracá Island, MPEG 454, 19.XI.1978, H.O. Schubart col.; MPEG 1185, 11.V.1981, A.E. Mill col..

BIOLOGY - *N. braziliensis* occurs in primary terra firme forests, but was also found in second growth forests. It builds dark, earthen nests, frequently epigeal, but sometimes at the base of trees. It is found also in rotten logs on the ground.

DISTRIBUTION - This species was previously known only from a few localities in Amazonas State, Brazil, but seems to be one of the most abundant *Neocapritermes* species in Amazonia.

*Neocapritermes guyana* Krishna & Araujo 1968

**MATERIAL EXAMINED** - BRAZIL. Amazonas State. Humaitá, MPEG 3724, 15.IX.1990, R. Constantino col..

**BIOLOGY** - This colony was collected in a primary terra firme forest under a fallen log. Only a few soldiers and workers were found.

**DISTRIBUTION** - This species was previously known only from the type-locality in Guyana.

*Neocapritermes opacus* (Hagen) 1858

**MATERIAL EXAMINED** - BRAZIL. Amazonas State. Humaitá, MPEG 3727, 3733 and 3801, 15-20.IX.1990, R. Constantino col.. Pará State. Bujarú, 12.V.1978, A.G. Bandeira col.. Rondonia State. Ji-Paraná, MPEG 2211, 12.VIII.1984, R.B. Neto col.. Ouro Preto do Oeste, MPEG 2222, 18.VIII.1984, R.B. Neto col..

**BIOLOGY** - This species occurs in a wide range of habitats including cerrado, primary and second growth forests. Its nest is subterranean and it is found foraging in or under fallen logs.

**DISTRIBUTION** - *N. opacus* has a wide distribution in South America, including Ecuador, Bolivia, Argentina, Paraguay and central-southern and northeastern Brazil. The colonies listed above are the first records of this species for Brazilian Amazonia.

*Neocapritermes talpa* (Holmgren) 1906

**MATERIAL EXAMINED** - BRAZIL. Amazonas State. Humaitá, MPEG 3707, 3728, 3729 and 3731, 14-15.IX.1990, R. Constantino col.. Rondônia State. Ji-Paraná, MPEG 2202, 10.VIII.1984, R.B. Neto col..

**BIOLOGY** - *N. talpa* occurs in primary terra firme forests in diffuse subterranean galleries and was found foraging under fallen logs.



**DISTRIBUTION** - This species was previously known only from a few localities in Peru, Colombia and Bolivia and is recorded here for the first time for Brazil. *N. talpa* seems to be restricted to western Amazonia although much new collecting is necessary to define the actual distribution of this species.

*Neocapritermes taracua* Krishna & Araujo 1968

**MATERIAL EXAMINED** - BRAZIL. Amapá State. Macapá, MPEG 3246, 29.X.1989, R. Constantino col.. Mazagão, MPEG 3181 and 3192, 20.X.1989, R. Constantino col.. Serra do Navio, MPEG 3265, 02.XI.1989, R. Constantino col.. Pará State. Parque Nacional da Amazônia, MPEG 387, 419, 3472 and 3489, 18.VIII.1978, A.G. Bandeira col..

**BIOLOGY** - No biological data are available in the literature. This species occurs in primary terra firme forests, but was also collected in pastures and in second growth forests. It is found in or under rotten, fallen logs or, less frequently, in abandoned epigeal nests built by *Cornitermes* spp. Sometimes it builds earthen structures in or under rotten logs, with large cells with smooth inner surface.

**DISTRIBUTION** - *N. taracua* was previously known from a few localities in Amazonas and Roraima States, Brazil, and the material listed above represents the first records of this species for Pará and Amapá States.

*Neocapritermes utiariti* Krishna & Araujo 1968

**MATERIAL EXAMINED** - BRAZIL. Amazonas State. Humaitá, MPEG 3665 and 3671, 12.IX.1990, R. Constantino col.. Pará State. Benevides, MPEG 981 and 987, 16-17.IX.1980, R.B. Neto col..

**BIOLOGY** - *N. utiariti* occurs in primary terra firme forests. It is found in or under fallen, rotten logs or in epigeal, earthen nests built by other species. This species is the largest sized in the genus.



DISTRIBUTION - This species is known only in Brazil, from a few localities in central and eastern Amazonas State, northern Mato Grosso State and eastern Pará State.

*Neocapritermes villosus* (Holmgren) 1906

MATERIAL EXAMINED - BRAZIL. Amazonas State. Humaitá, MPEG 3706, 14.IX.1990, R. Constantino col..

BIOLOGY - The colony above was collected in a primary terra firme forest under a fallen log. Holmgren (1906) mentioned that *N. villosus* occurs in areas with stones or many roots where no other species can dig and that *N. talpa* is restricted to areas with soft soil. This was not verified, and both species were collected in the same terra firme forest where no variation in the soil type was observed.

DISTRIBUTION - Previously known only from one locality in Peru and another in Ecuador. This is the first record of this species for Brazil.

#### ACKNOWLEDGEMENTS

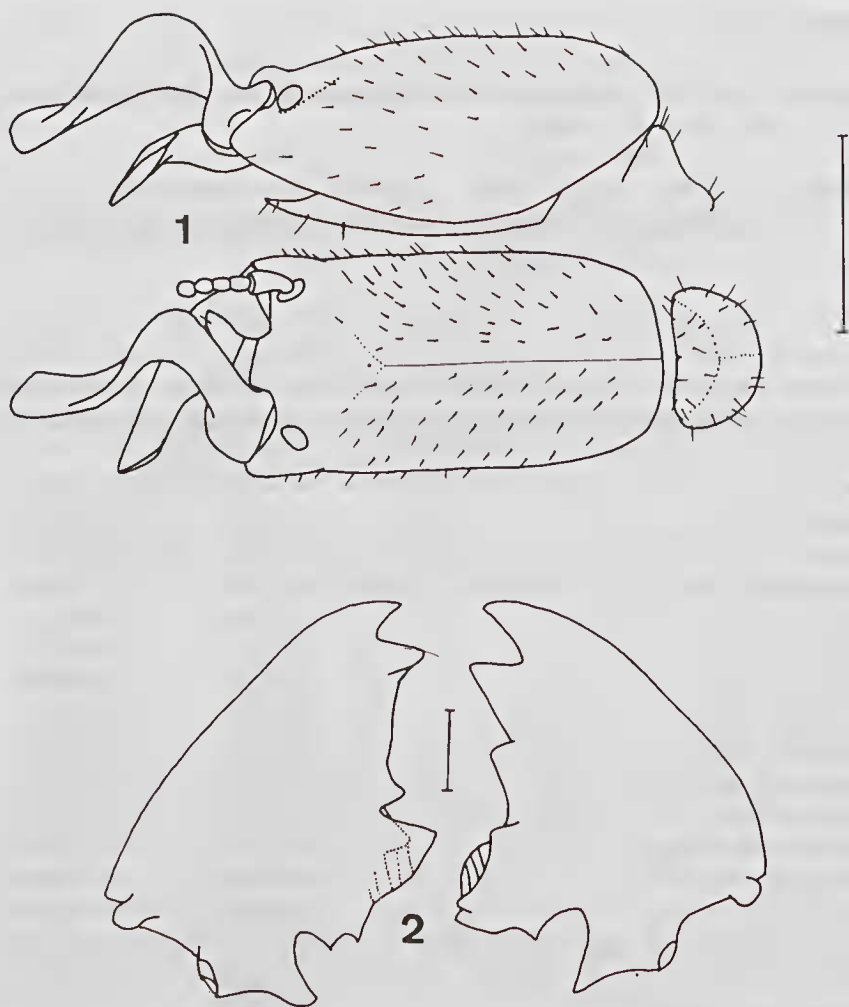
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Table 1 - Geographical coordinates of the Brazilian localities mentioned in this paper.

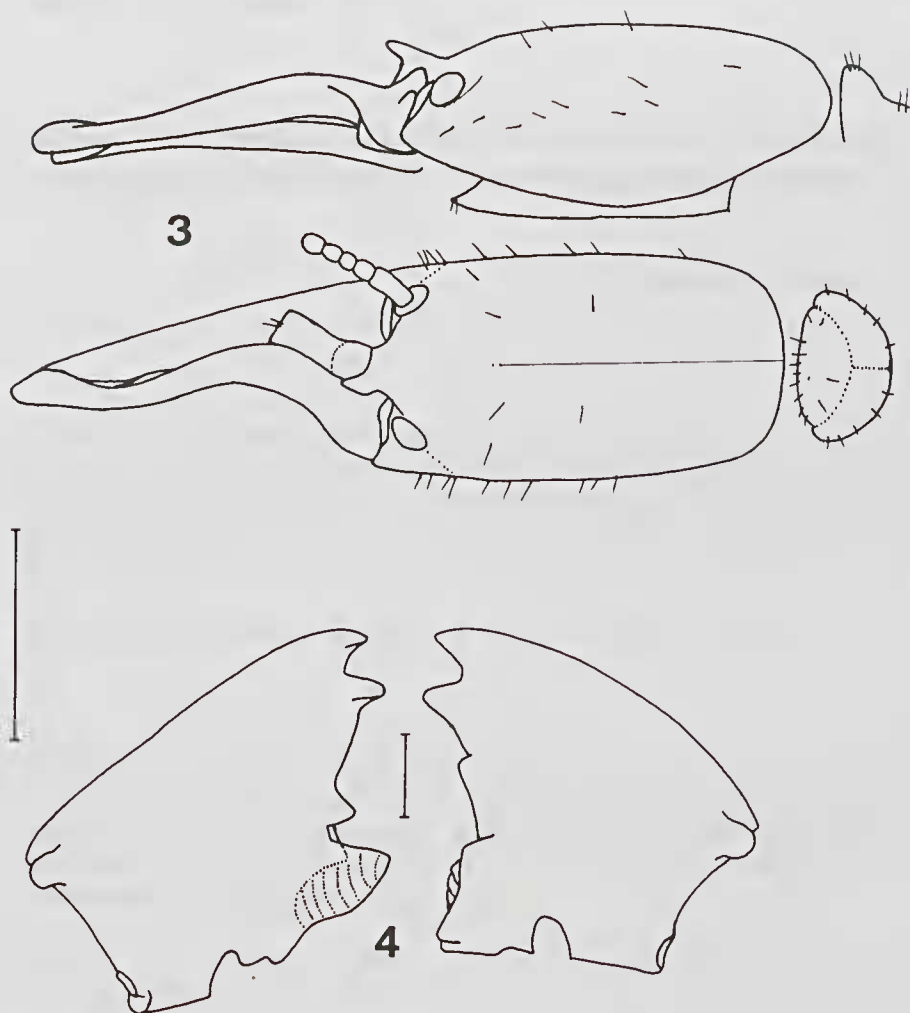
Anajás - PA	01°00'S	49°56'W
Belém - PA	01°27'S	48°28'W
Benevides - PA	01°29'S	48°13'W
Breves - PA	01°39'S	50°28'W
Bujaru - PA	01°32'S	48°01'W
Humaitá - AM	07°31'S	63°01'W
Ji-Paraná - RO	10°50'S	61°56'W
Macapá - AP	00°02'N	52°32'W
Manaus - AM	03°07'S	60°01'W
Maraã - AM	01°51'S	65°27'W
Maracá Island - RR	03°27'N	61°21'W
Mazagão - AP	00°08'N	51°18'W
Oriximiná - PA	01°46'S	55°51'W
Parque Nacional da Amazônia - PA	04°20'S	56°40'W
Serra do Navio - AP	01°00'N	52°04'W
Silves - Faz. Aruanã - AM	03°04'S	58°45'W
Soure - PA	00°43'S	48°31'W
Tucuruí - PA	03°43'S	49°41'W



**Figures 1-2**

*Neocapritermes pumilis*, sp.n.

1. soldier's head; 2. worker's mandibles. Scales = 1.0 mm for soldier and 0.1 mm for mandibles.



Figures 3-4

*Neocapritermes unicornis*, sp.n.

3. soldier's head; 4. worker's mandibles. Scales = 1.0 mm for soldier and 0.1 mm for mandibles.